

CLAIMS

1. An in vivo device comprising:
 - a light detecting sensor;
 - a non-image sensor; and
 - 5 an illumination source;wherein said non-image sensor is connected with said illumination source.
2. The in vivo device according to claim 1 wherein the light detecting sensor is an image sensor.
- 10 3. The in vivo device according to claim 2 wherein the image sensor is a selected from a group including: a CMOS, and a CCD.
4. The in vivo device according to claim 1 wherein the non-image sensor is selected from a group including: temperature
- 15 sensor, pH sensor, pressure sensor, location sensor, blood detection sensor, and control detector.
5. The in vivo device according to claim 4 wherein the control detector is selected from a group including: a battery level detector, a signal strength detector, and an operational mode
- 20 detector.
6. The in vivo device according to claim 1 wherein the non-image sensor is to relay non-image sensor information selected from a group including: analog information, digital information.

7. The in vivo device according to claim 6 wherein the non-image sensor information is relayed to said illumination source.
8. The in vivo device according to claim 7 wherein the non-image sensor information is converted to information selected from a group including: light amplitude, light frequency, light pulse amplitude, light pulse width, and light pulse frequency.
9. The in vivo device according to claim 6, wherein the digital information is conveyed to the illumination source as a bit pattern.
10. The in vivo device according to claim 1 wherein the illumination source is a LED.
11. The in vivo device according to claim 1 comprising an illumination device driver circuit.
12. The in vivo device according to claim 1 comprising an optical guide.
13. The in vivo device according to claim 12 wherein an optical guide is selected from a group including: an one optical fiber, a plastic a conduit, a prism, and a mirror.
14. The in vivo device according to claim 13 wherein the optical guide is to direct light from the illumination source to a specified area in the light detecting sensor.
15. The in vivo device according to claim 14 wherein the specified area in the image sensor is an area not designated for capturing image information.

16. The in vivo device according to claim 1 wherein the non-image sensor is sampled at a different rate than the light detecting sensor.
17. The in vivo device according to claim 2 wherein the image
5 sensor is to sample image information and non-image sensor information in alternate frames.
18. The in vivo device according to claim 1 comprising a power source.
19. The in vivo device according to claim 1 comprising a switch to
10 convey non-image sensor information to an illumination source.
20. The in vivo device according to claim 1 comprising:
an image sensor; and
a light detecting sensor.
- 15 21. The in vivo device according to claim 20 wherein the image sensor is configured for sampling image information and the light detecting sensor is configured for sampling non-image sensor information.
22. The in vivo device according to claim 21 wherein an output
20 from the non-image sensor triggers activation of the image sensor.
23. The in vivo device according to claim 21 wherein an event captured by the image sensor triggers activation of the light detecting sensor.

24. The in vivo device according to claim 1 comprising a processing chip.
25. The in vivo device according to claim 1 comprising a compression module.
- 5 26. The in vivo device according to claim 1 comprising a memory module.
27. The in vivo device according to claim 1 comprising a transmitter.
28. The in vivo device according to claim 1 wherein the in vivo
10 device is configured for sensing the gastrointestinal tract.
29. The in vivo device according to claim 1 wherein the in vivo device is a capsule.
30. An in vivo imaging system comprising:
an in vivo transmitting device comprising an image sensor, a
15 non-image sensor; an illumination source; and a transmitter,
wherein said non-image sensor is connected with said illumination source;
an external receiver; and
a display.
- 20 31. The in vivo imaging system according to claim 30 wherein the in vivo transmitting device is a capsule.
32. The in vivo imaging system according to claim 30 wherein the display is to display non-image sensor information.

33. The in vivo imaging system according to claim 30 wherein the non-image sensor information is displayed as a lit area on the monitor outside the image, a graphical icon, a numerical value, or a graph of non-image information over time.
- 5 34. A method for transmitting in vivo non-image information, said method comprising:
- obtaining non-image sensor information;
- converting said non-image sensor information to optical output;
- 10 relaying said optical output to an image sensor thereby obtaining image sensor information; and
- transmitting said image sensor information to an external receiver.
35. A method according to claim 34 comprising:
- 15 displaying sampled image sensor information.
36. The method according to claim 34 wherein -image sensor information is obtained from the gastrointestinal tract.
37. The method according to claim 34 comprising: directing the non-image sensor information to a specified location on the
- 20 image sensor via an optical guide.
38. The method according to claim 34 wherein converting said non-image sensor information to optical information is by electrically connecting an illumination source to a non-image sensor.

39. The method according to claim 34 comprising the step of interpreting the non-image information sampled.
40. The method according to claim 39 comprising the step of displaying the interpreted non-image sensor information.
- 5 41. An in vivo imaging system comprising:
- a sampling means for obtaining non-image information from a non-image sensor;
 - a converting means for converting said non-image sensor information to optical information;
 - 10 a relaying means for relaying said non-image sensor information to an image sensor thereby obtaining image sensor information; and
 - a transmitting means for transmitting said image sensor information to a receiver.
- 15 42. The in vivo system of claim 41 comprising a displaying means for displaying sampled image sensor information.
43. The in vivo system according to claim 41 comprising an interpreting means for interpreting the non-image sensor information sampled by the image sensor.